



**PUBLIC WORKS DEPARTMENT
CITY OF MERCER ISLAND, WASHINGTON**

9611 S.E. 36th St. • Mercer Island, WA 98040-3732

(206) 275-7608 • FAX: (206) 275-7814

www.mercerisland.gov

Luther Burbank Park Waterfront Improvements Shoreline Vegetation Plan

1. Personnel Qualifications

- a. Lizzy Stone, MS: Lizzy Stone has nearly a decade of experience working in habitat restoration and forest ecology. She earned a BS in biology from the University of New Mexico and an MS in forest ecology from the University of Washington's School of Environmental and Forest Sciences. She has worked as the Natural Resources Project Manager for the City of Mercer Island since the summer of 2021.
- b. Paul West, MFR: Paul D. West has 40 years of experience in the field of landscape horticulture. He holds a BS in Natural Resources from Cornell University and a Masters of Forest Resources in Urban Horticulture from the University of Washington. He was previously the Senior Urban Forester for the City of Seattle Parks and Recreation Department. He has authored numerous natural resource and vegetation management plans for both private and public entities.

2. Site, Project Purpose, and Permit Approach

Luther Burbank Park is a 55-acre public park on the north end of Mercer Island. The address is 2040 84th Avenue SE. It slopes to Lake Washington along its eastern and northern boundaries. The site contains $\frac{3}{4}$ mile of shoreline. The City of Mercer Island Public Works Department (City) is designing the renovation of the Luther Burbank Park Waterfront, which includes renovating and replacing docks, adding new shoreline access features, and installing shoreline buffer plantings on a portion of the park known by Parcel Identification Number 0624059014. The purpose of this project is to increase capacity and accessibility for public shoreline recreation by renovating and improving the fifty-year-old facility. This goal aligns with the Washington State Shoreline Management Act.

Mercer Island City Code MICC 19.13.050(K)(4) requires a vegetation plan for the 20-foot shoreline buffer for the parcel under permit application because the sum total of all shoreline development within the past five years has or will result in an increase in hardscape coverage that is over 1000 square feet. The vegetation plan must provide native vegetation coverage over 75 percent of the 20-foot vegetation buffer. The vegetation must be a variety of groundcover, shrubs, and trees native to the Central Puget Sound lowlands. Existing mature trees and shrubs that are not comprised of noxious weeds may be included in the coverage calculation.

The code requirement appears to be intended for private residential development with shoreline lengths typically in the range of 100-200 feet. In this instance, the shoreline surveyed is

approximately 2300 feet in length. This vegetation plan uses natural resource survey methodology by dividing the shoreline buffer into vegetation units that contain vegetation with a consistent composition across the unit. These units have typically evolved from an underlying soil and water characteristic (e.g. a wetland), and/or from an historical episode of development, such as agriculture. The personnel performing the survey have a combination of academic training and professional experience to visually estimate the percentage cover class of native and mature vegetation for each unit.

3. Vegetation Survey

Eighty-nine percent (41,976 square feet) of the shoreline buffer is vegetated, while 11% (5,376 square feet) is made up of a swim beach and plaza. The vegetated shoreline buffer was divided into vegetation units based on vegetation composition, management history, and landscape features. A map of the vegetation units is shown in Map 1. A summary of the vegetation survey is provided in Table 1. Expanded evaluations of each vegetation unit follow.



LUTHER BURBANK SHORELINE VEGETATION PLAN: VEGETATION UNITS



Disclaimer: No warranties of any sort including accuracy, fitness or merchantability accompany this map.

Table 1: Summary of Vegetation Survey

Veg Unit	Area SF	Native Veg Class Cover Percentage	Descriptor	Management History	Proposed Management Action
1	3,859	75-100	Cottonwood forest	Not managed	Monitor
2	2,946	75-100	Off-leash Area Wetland	Enhanced in 2008 as part of the Off-leash Area project	Enhance dog exclusion along the shoreline, plant
3	23,160	75-100	North Shoreline	Constructed in 2008 as a shoreline stabilization project and maintained	Periodic noxious weed removal
4	12,011	25-50	South Shoreline	Constructed in 2023 as part of a shoreline stabilization project	Maintain new plantings

4. Vegetation Units

1. Cottonwood Forest

Condition Description: The shoreline vegetation consists of cottonwood trees *Populus balsamifera* spp. *trichocarpa* with an understory of sedges. It is classified in the 75-100 percent quartile of native coverage, and the actual coverage is over 100% with multiple layers of vegetation present. Plant cover is continuous except for bare soil where social trails have formed from park users. The noxious weed Himalayan blackberry *Rubus armeniacus* is present in combination with native plants at the north end of the unit.

Management History: This shoreline was historically part of a farm that operated from 1906 to 1965. A dock was located at the north end of this unit until the property was purchased for a county park in 1968. There is no documentation of management of this unit during the county's ownership. The City has monitored this unit for vegetation condition.

Proposed Action: The City will continue monitoring Vegetation Unit 1 for noxious weeds and prioritize weed removal with other vegetation management in the park.



Figure 1: Representative image of Vegetation Unit 1. Note social trail through dense sedge understory.

2. Off-leash Area Wetland

Condition Description: This shoreline vegetation unit consists of deciduous tree and tall red osier dogwood *Cornus sericea* canopy with significant areas of bare soil. It is classified in the 75-100 percent quartile of native coverage because of tree and shrub coverage, but this does not reflect an underlying management issue of bare soil. The noxious weeds Himalayan blackberry *Rubus armeniacus*, and English ivy *Hedera helix* are present in small patches.

Management History: This shoreline was historically part of a farm that operated from 1906 to 1965. The property was purchased for a county park in 1968. There is no documentation of management of this unit during the county's ownership. The City identified this area as a wetland during the design of the Off-leash Area (OLA) redevelopment project in 2008. The City subsequently installed wetland enhancement plantings and fencing in this area as part of the OLA construction. It has monitored this unit for vegetation condition since then.

Proposed Action: The City will enhance dog exclusion along this stretch of shoreline, plant native understory plants, maintain the buffer plantings, and continue to monitor the unit.



Figure 2: Representative image of Vegetation Unit 2. Note bare ground around mature native dogwood shrubs.

3. North Shoreline

Condition Description: This shoreline vegetation unit consists of mature Lombardy poplar *Populus nigra 'Italica'* trees with dense native tree and tall shrub canopy. It is classified in the 75-100 percent quartile of native coverage, and the actual coverage is over 100% with multiple layers of vegetation present. The noxious weed Himalayan blackberry *Rubus armeniacus* is present but does not represent significant cover.

Management History: This shoreline was historically part of a farm that operated from 1906 to 1965. The property was purchased for a county park in 1968. There is no documentation of management of this unit during the county's ownership. The City installed shoreline stabilization and native buffer plantings in 2008. This buffer has been maintained since, with periodic removal of invasive non-native species.

Proposed Action: The City will continue monitoring for noxious weeds in Vegetation Unit 3 and prioritize weed removal with other vegetation management in the park.



Figure 3: Representative image of Vegetation Unit 3

4. South Shoreline

Condition Description: This shoreline vegetation unit consists of native deciduous trees, predominantly Oregon Ash *Fraxinus latifolia* on approximately half of the unit, with dense shoreline buffer vegetation and new restoration plantings on the other half. Overall, the unit is classified in the 25-50% quartile of native coverage. The noxious weeds Himalayan blackberry *Rubus armeniacus*, English Holly *Ilex aquifolium*, and English ivy *Hedera helix* are present but do not represent significant cover. A non-native *Viburnum* species has naturalized in parts of this shoreline but does not appear to be invasive.

Management History: This shoreline was forested during the era when it was part of a farm that operated from 1906 to 1965. The property was purchased for a county park in 1968. There is no documentation of management of this unit during the county's ownership. The City installed shoreline stabilization and native buffer plantings in 2023. An initial step in that project was noxious weed control for the year leading up to construction.

Proposed Action: The City will maintain this buffer to ensure successful establishment of over 800 native plants installed in the fall of 2023. Maintenance will include irrigation, weeding, mulching, and deer protection. The City will install additional plants as needed to establish successful native cover throughout the buffer.



Figure 4: representative image of Vegetation Unit 4. Blue plant covers prevent deer browse on tree seedlings.

5. Analysis of Code Compliance

The vegetation cover in Vegetation Units 1, 2, and 3 is currently in compliance with MICC 19.13.050(K)(4). Each of these units has greater than 75% native and mature, non-invasive plant cover. These three vegetation units cover 29,965 square feet or 63.3 percent of the 20-foot shoreline buffer. Vegetation Unit 4 has 25-50% native and mature, non-invasive plant cover. It is 12,011 square feet or 25.4 percent of the shoreline buffer. The existing canopy that covers roughly half of the unit is compliant, with coverage close to or exceeding 100%. New plantings cover roughly half of the vegetation unit. The planned maintenance of the new plantings is expected to produce robust growth, especially in Years 2 and 3. The new plantings need only to provide something above 50% coverage to result in an average native cover of greater than 75% across the unit. In other words, an average of 75% or greater native plant cover will be achieved across the unit with only partial coverage by the new plantings. Therefore, it is realistic to expect that Unit 4 will be compliant at the end of Year 3 in 2026. Nevertheless, we expect these plantings to eventually achieve 100% native vegetation coverage, as a result of the proposed maintenance regime.

When all four vegetation units are compliant, they will provide at least 75% native or mature, non-invasive plant coverage on 88.6 percent of the shoreline buffer. This analysis is conservative in its approach. A more detailed vegetation survey would likely show that the 20-foot shoreline buffer is currently compliant. If we assume units 1, 2, and 3, along with half of unit 4 have 100% coverage, they would provide a total of 76.0% coverage across the buffer. Limitations in the study methodology do not enable us to confirm this result, however.

6. Implementation

The City of Mercer Island Public Works Natural Resources Unit (NRU) will be responsible for implementing the proposed actions in this plan. This program comprehensively manages the City's 300+ acres of public open space, including Luther Burbank Park. The NRU develops a work plan for each biennium and then implements it through a combination of contractors, volunteers, and City employees. This work is funded by the City's Capital Improvement Program.

7. Conclusion

The parcel currently has compliant coverage on 63.3% percent of the 20-foot shoreline buffer. The implementation of this vegetation plan is expected to enable this parcel to achieve full compliance with MICC 19.13.050(K)(4) by the end of 2026, or one year following the expected completion of the Luther Burbank Waterfront Improvements project. It is the goal of this vegetation plan for each vegetation unit to be compliant with greater than 75% native or mature, non-invasive plant coverage.